COLORADO
Water Quality Control Division
Department of Public Health & Environment

MEMORANDUM

DATE: April 25, 2018

TO: Water Quality Control Commission
Trisha Oeth, Administrator, WQCC

FROM: Joni Nuttle, Senior TMDL Specialist, Restoration and Protection Unit, WQCD
Tammy Allen, Restoration & Protection Unit Manager, WQCD

RE: 2018 TRIH for Cherry Creek Reservoir Control Regulation # 72

INTRODUCTION

The Cherry Creek Reservoir Control Regulation No. 72, 5 CCR 1002-72 is a watershed-scale implementation plan focused on a flow-weighted total phosphorus concentration approach. This regulation identifies activities necessary to reduce the inflow total phosphorus concentration to Cherry Creek reservoir to ensure the site-specific water quality standard of 18 ug/l chlorophyll *a* is attained. In addition to point source controls and discharge effluent limitations, the control regulation specifies that nonpoint source and regulated stormwater projects be implemented to reduce phosphorus concentrations. The Cherry Creek Basin Water Quality Authority (authority) is identified as the water quality management agency in the control regulation.

BACKGROUND

In 2009, the Water Quality Control Commission revised the Cherry Creek Reservoir Control Regulation #72 from a TMAL approach to the current flow-weighted concentration-based approach. Also in 2009, the reservoir standard for chlorophyll *a* was changed from 15 ug/l to 18 ug/l as a seasonal mean (July-September). Since that time, the reservoir has exceeded the chlorophyll *a* standard every year except in 2015. The reservoir also exceeds the water quality standard for dissolved oxygen. As a result, Cherry Creek Reservoir is on the Colorado 303(d) List of impaired waters for chlorophyll *a* and dissolved oxygen.

The authority responded to the reservoir's exceedances of the chlorophyll a and dissolved oxygen standards by initiating development of new watershed and reservoir models that will help the authority better understand nutrient dynamics in the reservoir and watershed and better predict reservoir responses to water quality management options. A reservoir model was completed that simulated water quality data for 2003-2013. The model was used to evaluate management scenarios, such as nutrient reductions and reservoir mixing, for attaining the water quality standards. The authority is updating the model to include data collected through 2017. Development of the watershed model is in progress with anticipated completion in 2018. The watershed model will be used to assess watershed nutrient control scenarios which can be used as inputs to the reservoir model. The reservoir model will be used to evaluate the reservoir response to the watershed management scenarios.

RECOMMENDATIONS

For the 2018 Cherry Creek Reservoir Control Regulation #72 Triennial Review Informational Hearing (TRIH), no rulemaking hearing is proposed. The Water Quality Control Division continues to work with the authority in a limited capacity and both organizations agree no changes are proposed during this TRIH. The authority has been making progress on nutrient controls in the watershed as well as development of the models discussed in the section above. The division recommends a Triennial Review Informational Hearing be scheduled in three years.

cc: Cherry Creek Basin Water Quality Authority